

## ABSTRACT

This invention relates to the field of holography, in particular to a method and a device for recording optical holograms by means of amorphous molecular semiconductor (AMS) films deposited on a glass substrate pre-covered with a transparent electric conducting sub-layer. More precisely, the invention relates to a method and device for registering optical holograms on AMS-films which operates in such a way that the AMS-films possess the maximum achievable information parameters: Holographic sensitivity, optimal spatial frequency of the transmitted characteristic, band parameters for the spatial frequencies of the transmitted characteristic, "signal-to-noise" ratio in the restored holographic image, reference and object beam intensities ratio during hologram registration, and cycling ability. It is also an advantage that the device provides optimal operation efficiency of the registering media based on AMS-films, and restricts the development and erasing of the hologram upon reaching the pre-set value of the diffraction efficiency measured in the zeroth order of diffraction. The latter makes the device a universal device.

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